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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/843,930      | 04/30/2001  | Mustafa Uysal        | 10003526-1          | 9895             |

7590 05/25/2005  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

JONES, HUGH M

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2128

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/843,930

**Applicant(s)**

UYSAL ET AL.

**Examiner**

Hugh Jones

**Art Unit**

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 19 and 20-22 is/are rejected.
- 7) ☒ Claim(s) 11-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-22 of U.S. Application 09/843,930 are pending.

#### **Claim Rejections - 35 USC § 102**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

3. A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-10, 19-22 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Lee et al. (of record).

5. Lee et al. disclose performance modeling of disk arrays, including RAID systems (section 2), component modeling (section 3), calibration and verification/validation (section 4).

6. Claims 1, 4-6, 9-10, 19-22 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Shriver et al. (of record) or Lynch et al..

7. Shriver et al. disclose performance modeling of disks, component modeling and workload specifications (sections 2-3), models (section 4), calibration and verification/validation (section 5).

8. Lynch et al. disclose a generative approach for **configuring systems such that a system may be configured based on component or resource requests**, or input in the form of need. The present invention provides a **constraint-based configuration system using a structural model hierarchy**. The **structural aspects of the model**

**provide the ability to define a model element as being contained in, or by, another model element.** In addition, the structural model provides the ability to identify logical datatype and physical interconnections between elements and establish connections between elements. To configure a system, the present invention accepts input in the form of requests (e.g., **component or resource**) or **needs**, such as an expression of a need for a desktop computer system to be used in a CAD (i.e., computer-aided design) environment. Using this information, the present invention **configures a system by identifying the resource and component needs, constraints imposed on or by the resources or components identified, and the structural aspects of the system.**

See particularly fig. 2, 5-7, 12 and corresponding text.

**Claim Rejections - 35 USC § 103**

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 2128

11. Claims 2-3, 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shriver et al. or Lynch et al. in view of Lee et al. (of record).

12. Shriver et al. disclose performance modeling of disks, component modeling and workload specifications (sections 2-3), models (section 4), calibration and verification/validation (section 5).

13. Lynch et al. disclose a generative approach for configuring systems such that a system may be configured based on component or resource requests, or input in the form of need. The present invention provides a constraint-based configuration system using a structural model hierarchy. The structural aspects of the model provide the ability to define a model element as being contained in, or by, another model element. In addition, the structural model provides the ability to identify logical datatype and physical interconnections between elements and establish connections between elements. To configure a system, the present invention accepts input in the form of requests (e.g., component or resource) or needs, such as an expression of a need for a desktop computer system to be used in a CAD (i.e., computer-aided design) environment. Using this information, the present invention configures a system by identifying the resource and component needs, constraints imposed on or by the resources or components identified, and the structural aspects of the system.

See particularly fig. 2, 5-7, 12 and corresponding text.

14. The base references do not expressly disclose that the intended use is for disk arrays.

Art Unit: 2128

15. Lee et al. disclose performance modeling of disk arrays, including RAID systems (section 2), component modeling (section 3), calibration and verification/validation (section 4).

16. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the base references to extend the modeling from single disks to disk arrays because 1) Shriver et al. note the similarity to disk array models (col. 2, page 190), 2) Shriver indicates that future work will include modeling of disk arrays (col. 1, page 191), and 3) Lee et al. indicate that disk arrays are becoming more important and offer higher I/O performance over individual disks (col. 1, page 98)

**Allowable Subject Matter**

17. Claims 11-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does not disclose or suggest combination of hierarchy, constraints, and transforms, in the context of the claims.

**Response to Argument**

18. Applicant's arguments, filed 3/23/2005, have been carefully considered, but are not persuasive.

19. The objections to the claims is maintained for reasons subsequently presented.

20. The 101 rejection is withdrawn in view of Applicant's amendment.

Art Unit: 2128

21. Applicant's arguments relating to the 102 rejections are not persuasive. The independent claims recite constraint or transformer or constraint and transformer.

22. In any case, the applied art does teach the limitations. For example, Shriver et al. discloses (sections 4.4-4.5) "workload transformations".

23. The specification (page 12, lines 13-16) as, "A constraint is a limit, requirement, or threshold representing a maximum, minimum or other capability of the component being modeled. A constraint may be embodied as a single number, a formula or an algorithm for evaluation." The specification provides example in lines 13-19 of page 14.

24. Shriver, for example, places a constraint on the model by assuming a rotational latency (page 185, middle of second column). Lee et al., for example, constrain the model by assuming that the model will do nothing but issue I/O requests (top of second column, page 100).

25. Lynch et al. disclose a generative approach for configuring systems such that a system may be configured based on component or resource requests, or input in the form of need. The present invention provides a constraint-based configuration system using a structural model hierarchy. The structural aspects of the model provide the ability to define a model element as being contained in, or by, another model element. In addition, the structural model provides the ability to identify logical datatype and physical interconnections between elements and establish connections between elements. To configure a system, the present invention accepts input in the form of requests (e.g., component or resource) or needs, such as an expression of a need for a desktop computer system to be used in a CAD (i.e., computer-aided design)

Art Unit: 2128

environment. Using this information, the present invention **configures a system by identifying the resource and component needs, constraints imposed on or by the resources or components identified, and the structural aspects of the system.**

26. Applicants mischaracterize the Examiner's remarks on page 15 of the reply of 3/23/2005, wherein they allege "...thus, the Office Action acknowledges the failure of Lee et al. to disclose a constraint or transformer, as recited in the claims." The Examiner made no such acknowledgement. Please refer to the plain and clear language as stated in the last official office action.

### **Conclusion**

**27. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

28. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**29. Any inquiry concerning this communication or earlier communications from the examiner should be:**



Art Unit: 2128

**directed to:**

Dr. Hugh Jones telephone number (571) 272-3781, Monday-Thursday 0830 to 0700 ET,

**or** the examiner's supervisor, Jean Homere, telephone number (571) 272-3780. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, telephone number (703) 305-3900.

**mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

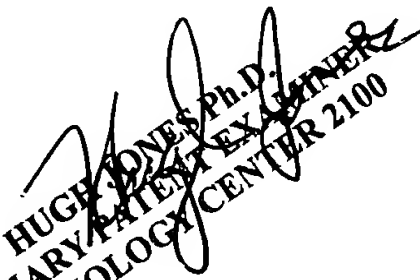
(703) 308-9051 (for formal communications intended for entry)

**or** (703) 308-1396 (for informal or draft communications, please label *PROPOSED* or *DRAFT*).

Dr. Hugh Jones

Primary Patent Examiner

December 11, 2004

  
HUGH JONES Ph.D.  
PRIMARY PATENT EXAMINER  
TECHNOLOGY CENTER 2100